

at least one volatile titanium compound; and
a reactive oxygen precursor.

2. (Amended) The method according to Claim 1, wherein the oxide thin film is dielectric.

3. (Amended) The method according to Claim 1, wherein said method comprises 1-10 growth cycles in succession, wherein one growth cycle comprises:

feeding of a Ba compound, a Sr compound or a volatile titanium compound;
an inert purge;
feeding a reactive oxygen precursor; and
a second inert purge.

4. (Amended) The method according to Claim 1, wherein the ratio of the at least one cyclopentadienyl compound of strontium and/or barium and the at least one volatile titanium compound is 0.8-1.2.

5. (Amended) The method according to Claim 1, wherein the volatile titanium compound is selected from the group consisting of a titanium halide, a titanium alkoxide, titanium nitrate ($\text{Ti}(\text{NO}_3)_4$), an alkylamino complex of titanium, a cyclopentadienyl complex of titanium, a silylamido complex of titanium, titanium dialkyldithiocarbamate, and a titanium- β -diketonate.

6. (Amended) The method according to Claim 1, wherein the substrate is selected from the group consisting of a platinum (Pt), RuO_2 , IrO_2 , SrRuO_3 , LaSrCoO_3 , IrO_2/Ir , RuO_2/Pt , silica (SiO_2), silicon nitride and a silicon surface.

7. (Amended) The method according to Claim 1, wherein the reactive oxygen precursor is selected from the group consisting of oxygen (O_2), water vapor, hydrogen peroxide, an aqueous solution of hydrogen peroxide, ozone, and a combination thereof.

8. (Amended) The method according to Claim 1, wherein the at least one cyclopentadienyl compound of strontium and/or barium is $\text{M}(\text{Cp})_2$ or $\text{M}(\text{Cp})_2\text{L}_n$, where

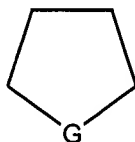
- M is Sr or Ba,
- Cp is a fused or single cyclopentadienyl group of the form $\text{C}_5\text{R}_m\text{H}_{5-m}$, where
- m is an integer 0-5 and
- R is a hydrocarbon group, wherein the m hydrocarbon groups are either the same or different,

- the Cp-groups are either the same or different,
- L_n is a neutral adduct ligand which binds to the metal by one or several of the atoms in said neutral adduct ligand.
9. (Amended) The method according to Claim 1, wherein
- the at least one cyclopentadienyl compound of strontium and/or barium is $M(Cp)X$ or $M(Cp)XL_n$, where
 - M is Sr or Ba,
 - Cp is a fused or single cyclopentadienyl group $C_5R_mH_{5-m}$, where
 - m is an integer 0-5 and
 - R is a hydrocarbon group, wherein the m R 's are either the same or different,
 - X is a ligand having a valence of -1, wherein X is not a cyclopentadienyl group and
 - L is a neutral adduct ligand which binds to the metal by one or several of the atoms making up said neutral adduct ligand.
10. (Amended) The method according to Claim 9, wherein the cyclopentadienyl group is selected from the group consisting of cyclopentadienyl, pentamethylcyclopentadienyl, triisopropylcyclopentadienyl, indenyl, and fluorenyl.
11. (Amended) The method according to Claim 8, wherein the two Cp groups are joined by a bridge.
12. (Amended) The method according to Claim 11, wherein the bridge between the two Cp groups is a substituted or unsubstituted $C_1 - C_6$ carbon chain.
13. (Amended) The method according to Claim 12, wherein the carbon chain forming the bridge contains a heteroatom selected from the group consisting of silicon, nitrogen, phosphorus, selenium, and sulfur.
14. (Amended) The method according to Claim 9, wherein R is a substituted or unsubstituted, cyclic, linear or branched group selected from the group consisting of an alkyl, an alkenyl, an aryl, an alkylaryl, an arylalkyl, an alkoxy, a thio, an amino, a cyano and a silyl group.
15. (Amended) The method according to Claim 9, wherein the neutral adduct ligand L is selected from the group consisting of:
- (i) a hydrocarbon,
 - (ii) an oxygen-containing hydrocarbon,

- (iii) a nitrogen-containing hydrocarbon,
(iv) a sulfur-containing hydrocarbon,
(v) a phosphorus-containing hydrocarbon,
(vi) an arsenic-containing hydrocarbon,
(vii) a selenium-containing hydrocarbon,
(viii) a tellurium-containing hydrocarbon,
and a combination thereof.

16. (Amended) The method according to Claim 9, wherein L is selected from the group consisting of:

- (a) an amine or polyamine,
(b) a bipyridine,
(c) a ligand depicted by the formula



, where G is -O-, -S-, or -NR¹-, where R¹ is hydrogen or a substituted or unsubstituted, cyclic, linear or branched group selected from the group consisting of an alkyl, an alkenyl, an aryl, an alkylaryl, an arylalkyl, an alkoxy, a thio, a cyano and a silyl group, and wherein each carbon atom of the ring according the formula has an R¹-like substituent, wherein the substituents are either [mutually] the same or different,

- (d) ether, and
(e) thioether.

17. (Amended) The method according to Claim 9, wherein L is selected from the group consisting of an ether, a polyether, an amine, a polyamine, bipyridine and tetrahydrofuran.

18. (Amended) The method according to Claim 9, wherein X is selected from the group consisting of a β -ketonate, a corresponding sulfur or nitrogen compound, an alkyl, a halide, an amide, an alkoxide, a carboxylate and a Schiff base.

19. (Amended) The method according to Claim 1, wherein the producing of the film takes place at 250-300°C.

Please add the following new claims:

20. (New) The method according to Claim 3, wherein said method comprises 1-2 growth cycles.
21. (New) The method according to Claim 9, wherein the cyclopentadienyl group is selected from the group consisting of cyclopentadienyl, pentamethylcyclopentadienyl, triisopropylcyclopentadienyl, indenyl, and fluorenyl.
22. (New) The method according to Claim 9, wherein R is a substituted or unsubstituted, cyclic, linear or branched group selected from the group consisting of an alkyl, an alkenyl, an aryl, an alkylaryl, an arylalkyl, an alkoxy, a thio, an amino, a cyano and a silyl group.
23. (New) The method according to Claim 9, wherein the neutral adduct ligand L is selected from the group consisting of:
- (i) a hydrocarbon,
 - (ii) an oxygen-containing hydrocarbon,
 - (iii) a nitrogen-containing hydrocarbon,
 - (iv) a sulfur-containing hydrocarbon,
 - (v) a phosphorus-containing hydrocarbon,
 - (vi) an arsenic-containing hydrocarbon,
 - (vii) a selenium-containing hydrocarbon,
 - (viii) a tellurium-containing hydrocarbon,
- and a combination thereof.
24. (New) The method according to Claim 9, wherein L is selected from the group consisting of:
- (a) an amine or polyamine,
 - (b) a bipyridine,
 - (c) a ligand depicted by the formula



, where G is -O-, -S-, or -NR¹-, where R¹ is hydrogen or a substituted or unsubstituted, cyclic, linear or branched group selected from the group consisting

of an alkyl, an alkenyl, an-aryl, an alkylaryl, an arylalkyl, an alkoxy, a thio, a cyano and a silyl group, and wherein each carbon atom of the ring according the formula has an R¹-like substituent, wherein the substituents are either the same or different,

(d) ether, and

(e) thioether.

A³ 25. (New) The method according to Claim 19, further comprising postannealing said film at a temperature higher than a temperature at which the producing of the film takes place.

26. (New) The method according to Claim 25, wherein postannealing said film takes place at 500°C.

27. (New) A method for growing oxide thin films on a substrate in a reactor, comprising producing the films by the Atomic Layer Epitaxy (ALE) process by feeding pulses of precursor compounds into the reactor, wherein the precursor compounds comprise:

at least one cyclopentadienyl compound of strontium and/or barium; and

a reactive oxygen precursor.